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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,268	06/30/2000	Jeffrey Allan Tilton	24808A	8605

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OWENS CORNING
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EXAMINER
STAICOVICI, STEFAN

ART UNIT	PAPER NUMBER
1732	8

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n N .	Applicant(s)
	09/607,268	TILTON ET AL.
	Examiner	Art Unit
	Stefan Staicovici	1732

-- The MAILING DATE of this communication appears on the cover sheet with the c rresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 June 2002 .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 and 34 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-24 and 34 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed June 12, 2002 (Paper No. 7) has been entered. Claims 25-33 have been canceled. No new claims have been added. Claims 1-24 and 34 are pending in the instant application.

Specification

2. The disclosure is objected to because of the following informalities: on page 8, lines 13-14, it is unclear to which "Figures 1 and 2" the Applicant is referring.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1-4 & 7-8

4. Claims rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664).

Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) including, positioning a fibrous core (26) of polymeric

thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) (polymer based blanket material) between fabric layers (40, 42) (see Figure 7) (facing layer) to form an assembly (54), positioning said assembly (54) between mold dies (58, 60), compressing under conditions of heat said assembly such that said binder fibers melt and are set under heat and pressure to the desired conforming shape (col. 2, lines 20-25 and col. 6, lines 12-15) to form a molded fibrous headliner. Since the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60). Further, Souders *et al.* ('289) teach opening the mold dies (58, 60) and removing said molded fibrous headliner for further post-molding processing.

Regarding claim 1, Souders *et al.* ('289) do not teach inserting an insulation insert within said assembly (54). Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Therefore, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289). Further regarding claim 1, although Souders *et al.* ('289) teach cooling of the molded fibrous headliner until it assumes a self-supporting strength, Souders *et al.* ('289)

further teach a cooling fixture. Flowers *et al.* ('664) teach a molding process for a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4, lines 53-60). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure I the mold in the process of Souders *et al.* ('289) in view of Souders *et al.* ('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc. Further, it should be noted that Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

In regard to claim 2, Souders *et al.* ('289) teach cutting upper and lower fabric layers (col.. 5, lines 65-68). It is submitted that the fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) had been cut prior to placing between said cut upper and lower fabric layer (see Figure 7). Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious

for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

Specifically regarding claims 3 and 4, Souders *et al.* ('289) teach a temperature of said assembly (54) between 250-400 °F (see col. 6, lines 22-27).

Regarding claim 7, Souders *et al.* ('289) teach a compression factor between 10-87.5%.

In regard to claim 8, Souders *et al.* ('289) teach upper and lower fabric layers (40, 42) (see Figure 7).

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Doerer *et al.* (US Patent No. 4,418,031).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claims 5 and 6, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific molding pressure and time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have

used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

6. Claims 17-20, 23-24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Nomizo *et al.* (US Patent No. 5,366,678).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claims 17 and 34, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach heating the fibrous core (26) of polymeric thermoplastic binder fibers (polymer based blanket material) only in at least one selected area such that said at least one selected area is characterized by a higher density and rigidity. However, it should be noted that Souders *et al.* ('289) teach areas of different compaction (22) (see col. 4, lines 22-27). Nomizo *et al.* ('678) teach a compression molding process of a thermo-fusible fibrous (thermoplastic fibers) blank including, inserting said blank in a mold and applying pressure and heat to a specific region such that said thermoplastic fiber in said specific region melts, hence the density and hardness in said specific region (col. 1, lines 45-56 and col. 2, lines 9-25). It is submitted that an increased hardness results in an increased rigidity. Therefore, it would have been obvious for one of ordinary skill in the art to have heated the fibrous core of

polymeric thermoplastic binder fibers in a specific region (only in at least one selected area) as taught by Nomizo *et al.* ('678) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Nomizo *et al.* ('678) specifically teaches that such localized heating allows for an increased density and hardness (rigidity) in said areas which results in a more versatile and improved product.

In regard to claim 18, Souders *et al.* ('289) teach cutting upper and lower fabric layers (col.. 5, lines 65-68). It is submitted that the fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) had been cut prior to placing between said cut upper and lower fabric layer (see Figure 7). Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289) in view of Flowers *et al.* ('664) and in further view of Nomizo *et al.* ('678), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

Specifically regarding claims 19 and 20, Souders *et al.* ('289) teach a temperature of said assembly (54) between 250-400 ^{o}F (see col. 6, lines 22-27).

Regarding claim 23, Souders *et al.* ('289) teach a compression factor between 10-87.5%.

In regard to claim 24, Souders *et al.* ('289) teach upper and lower fabric layers (40, 42) (see Figure 7).

7. Claim 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664), Nomizo *et al.* (US Patent No. 5,366,678) and Doerer *et al.* (US Patent No. 4,418,031).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) and Nomizo *et al.* ('678) teach the basic claimed process as described above.

Regarding claims 21 and 22, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) and Nomizo *et al.* ('678) do not teach a specific molding pressure and time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) and Nomizo *et al.* ('678), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

8. Claims 9-13 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664).

Ang ('295) teaches the basic claimed process of forming a composite automotive headliner (insulator) including, assembling a fibrous mat (14) having polymeric thermoplastic binder fibers (col. 3, lines 49-57) (polymer based blanket material), a first facing layer (34) and a fibrous composite core (20) (see Figure 3) (facing layer) to form a charge (24), heating said charge (24) in a convection oven such that thermoplastic fibers of fibrous mat (14) soften and bond with other fibers within said fibrous mat (14) (col. 3, lines 53-56 and co. 4, lines 23-30), positioning said heated charge (24) between mold dies (28, 30), compressing said heated charge (24) to a desired shape and cooling said molded headliner (insulator) between mold dies (28, 30) prior to removing said molded headliner (insulator) from said mold dies (28, 30). Since said heated charge (24) assumes the shape of the mold, it is submitted that said heated binder fibers are set under pressure to the desired conforming shape when placed between said mold dies (28, 30).

Regarding claim 9, Ang ('295) does not teach inserting an insulation insert within said assembly (54). Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6).). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the

art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

In regard to claim 10, Ang ('295) teaches in Figure 4 that fibrous mat (14), first facing layer (34) and fibrous composite core (20) (see Figure 4) forming charge (24) have predetermined dimensions prior to placing between mold dies (28, 30). Further, Ang ('295) specifically teaches cutting fibrous composite core (20) prior to molding (col. 4, lines 48-50), hence it is submitted that the pre-selected dimensions of fibrous mat (14) and first facing layer (34) are also obtained by cutting. Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Ang ('295) in view of Flowers *et al.* ('664), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Ang ('295).

Specifically regarding claims 11 and 12, Ang ('295) teaches heating said charge (24) between 160-200 °C (see col. 4, line 28) (320-392 °F).

Regarding claim 13, Ang ('295) teaches a molding pressure of 1-10 psi

In regard to claim 16, Ang ('295) teaches a second facing layer (20).

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Doerer *et al.* (US Patent No. 4,418,031).

Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claim 14, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific molding time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. <u>In re Antoine</u>, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time as taught by Doerer *et al.* ('031) in the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that the molding time is a result-effective variable.

10. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Souders *et al.* (US Patent No. 5,591,289).

Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claim 15, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific compression ratio. Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) having a compression ratio between 10-87.5%. Therefore, it would have been obvious for one of ordinary skill in the art to have a compression ratio between 10-87.5% as taught by Souders *et al.* ('289) in the headliner obtained by the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Souders *et al.* ('289) specifically teach that such a ration provides for an improved headliner and also because both Ang ('295) and Souders *et al.* ('289) teach similar end-products, materials and processes.

In regard to claim 16, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a second facing layer. Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) having a first and a second facing layer (40, 42). Therefore, it would have been obvious for one of ordinary skill in the art to have a first and a second facing layer as taught by Souders *et al.* ('289) in the headliner obtained by the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Souders *et al.* ('289) specifically teach that such an arrangement provides for an improved headliner due to improved flexibility and strength, and also because both Ang ('295) and Souders *et al.* ('289) teach similar end-products, materials and processes.

Response to Arguments

11. Applicants' remarks filed June 12, 2002 (Paper No. 7) have been considered.

Applicants argue that the process parameters of "temperature, pressure and time must be read in the context of the ranges explicitly set forth in the Doerer et al. patent" (see page 5 of the amendment filed June 12, 2002). However, the teachings of Doerer *et al.* ('031) were not used to teach specific process parameters. The teachings of Doerer *et al.* ('031) were used to show that in a compression molding process of a fibrous core having polymeric thermoplastic binder (carrier) fibers the process parameters of molding temperature, pressure and time depend on the final product. Therefore, it is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) or in the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

Applicants other remarks(*i.e.*, in-mold cooling, localized insert) have been considered, but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (703) 305-

0396. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM and alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan H. Silbaugh, can be reached at (703) 308-3829. The fax phone number for this Group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Stefan Staicovici, PhD

Stefan Staicovici

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September 30, 2002